				Co ι	urse Co	ntent	Mappi	ng to C	ourse	LOs					
Program Name		Sustai	nable Ene	ergy Engir	neering	•		Program	Code	Ś	ÉE				
Program Level			SEN	IIOR				Program	Туре	C	HS	(2-Semes	ster / CHS)	
Course Name	Ар	plied Contr	ol Technolo	ogies for Er	nergy Syste	ms		Course C	ode	MEP	N 405	l			
							Cours	se LOs							
Topics	L01	102	103	LO4	ro5	901	107	801	601	LO10	1011	1012	L013	LO14	
Introduction to Device and definitions and	Α	Α	Α	Α	Α	Α	В	В	В	В	В	В			ILO Category
terminologies associated with automatic control theory.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	A = ENGINEERING
-Various types of automatic control loops in mech. power & energy transfer systems.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	B = SPECIALIZATION1
-Essential requirements of accuracy, efficiency, safety, and stability of automatic control systems	0	1	0	0	0	0	0	0	0	0	0	0	0	0	C = SPECIALIZATION2
-Concepts of mathematical modelling of various mechanical power systems and energy transfer processes	0	0	1	0	0	0	0	0	0	0	0	0	0	0	D = SPECIALIZATION3
-The element& whole system transfer functions & Block diagram analysis method.	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
-Laplace Transform & inverse Laplace technique to solve the system's ordinary time- dependent differential equations.	0	0	0	0	0	1	0	0	0	0	0	0	0	0	INSTRUCTIONS:
-Instantaneous dynamic response of control system and its graphical presentation on an output-time scale for various types of different instanting functions.	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1. PLEASE FILL IN THE WHITE CELLS ONLY.
-Main definitions and control characteristics of dynamic response of 1 st and 2 nd order automatic control systems.	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
- The analogy between various types of mechanical control systems and electric control	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
Bode Plots & Analysis of Frequency Response of Control systems.	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2. PLEASE DO NOT
-Introduction, Basics and definitions of Hydrostatics	0	0	0	0	0	0	0	1	0	0	0	0	0	0	DELETE ANY ROWS OR COLUMNS
Hydrodynamics and Methods of Power transportation	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
-Basic components of Hydraulic Systems	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3 IN THE ILO CATEGORY
-Hydraulic Symbols– Reading Hydraulic Schematics – Basic Hydraulic Circuits	0	0	0	0	0	0	0	0	0	0	1	0	0	0	CELLS, PLEASE ADD ONE
-Practical applications of automatic control Hydraulic systems	0	0	0	0	0	0	0	0	0	0	0	1	0	0	OF THE FOLLOWING LETTERS A, B, C, OR D.
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
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وحدة ضمان الجودة والاعتماد الأكاديمي كلية الهنــدســة ــ جـامعـة القــاهــرة



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l.														